

5.8 Badlands

Area: 1,845,000 acres

Description and Overall Condition: This landscape component includes the area associated with the Little Missouri River (see section 5.7.i for information on this focus area) drainage and is commonly referred to as badlands. This highly dissected landscape was formed by water erosion of the soft silt or clay soil and collapse following lignite coal bed burnings. Badly eroded clay-scoria slopes, buttes, and steep canyons are common throughout. Thickets of small trees and shrubs or woody draws of cottonwood and green ash naturally occur on north or east facing escarpments. Bare hills with scattered Rocky Mountain juniper, and shortgrass prairie in the bottomland and on top of buttes occur throughout. A few small, unique stands of native coniferous forest are present, specifically in Billings, Golden Valley, Slope and Bowman counties. Perhaps the most unique of these is the ponderosa pines, making it a focus area. The lack of recent fire has allowed the expansion and overgrowth of juniper in some areas. Ephemeral or intermittent streams are common in steep valleys. Natural wetlands are rare but water impoundments are common. Cattle grazing is prevalent and the most common land use. Recreation, and oil and gas activity are intensifying. The badlands are becoming extremely fragmented with the escalating number of roads required for industrial development. The USFS owns and manages about 1 million of acres as multiple-use in this landscape.

Predominant Natural Vegetation:

Grasses/Shrubs/Trees: cottonwood, green ash, Rocky Mountain juniper, Ponderosa pine, limber pine, bur oak, dwarf juniper, creeping juniper, spiny saltbrush, greasewood, prickly pear, rabbitbrush, silver sage, Western wheatgrass, blue grama, little bluestem, prairie sandreed, ricegrass, bluebunch wheatgrass, Indian ricegrass,

Forbs: yucca, fern, winter fat (TRNP), golden eriogonum, large-flowered dock, butte primrose, standing milkvetch, penstemon, purple coneflower, long-headed coneflower

Associated Species of Conservation Priority:

Birds	Mammals	Reptiles/Amphibians
Swainson's Hawk Golden Eagle *Peregrine Falcon Prairie Falcon Sharp-tailed Grouse Burrowing Owl Loggerhead Shrike Lark Bunting Grasshopper Sparrow	Western Small-footed Myotis Long-eared Myotis Long-legged Myotis Black-tailed Prairie Dog *Black-footed Ferret *Swift Fox	Plains Spadefoot Short-horned Lizard Northern Sagebrush Lizard

Other Characteristic Wildlife:

Birds: turkey vulture, red-tailed hawk, sharp-shinned hawk, Cooper's hawk, Northern goshawk, American kestrel, merlin, ring-necked pheasant, wild turkey, great horned owl, long-eared owl, boreal owl, Northern saw-whet owl, rock dove, mourning dove, common nighthawk, common poorwill, downy woodpecker, hairy woodpecker, Northern flicker, Clark's nutcracker, least flycatcher, say's phoebe, Western kingbird, Eastern kingbird, black-billed magpie, American crow, common raven, horned lark, tree swallow, Northern rough-winged swallow, cliff swallow, barn swallow, violet-green swallow, black-capped chickadee, red-breasted nuthatch, white-breasted nuthatch, brown creeper, house wren, rock wren, golden-crowned kinglet, ruby-crowned kinglet, mountain bluebird, American robin, gray catbird, brown thrasher, townsend's solitaire, gray-cheeked thrush, Bohemian waxwing, cedar waxwing, yellow warbler, yellow-rumped warbler (Audubon's), black-and-white warbler, American redstart, ovenbird, pine warbler, blackpoll warbler, common yellowthroat, yellow-breasted chat, spotted towhee, chipping sparrow, clay-colored sparrow, field sparrow, vesper sparrow, lark sparrow, lazuli bunting, pine grosbeak, red crossbill, white-winged crossbill, evening grosbeak, Western meadowlark

Mammals: desert cottontail, mountain cottontail, Northern myotis, least chipmunk, bushy-tailed woodrat, bighorn sheep, elk, mule deer, white-tailed deer, pronghorn

Reptiles and Amphibians: Woodhouse's toad, Great Plains toad, Northern leopard frog, common garter snake, plains garter snake, bullsnake, yellowbelly racer, prairie rattlesnake



Typical eroded clay-scoria buttes and Juniper trees of the Badlands.



Grassy hills and woody draws of the Badlands.

5.8.a Focus Area: Ponderosa Pine Forest

Area: 8,000 acres (3,270 ha)

Description and Condition: The actual ponderosa pines occupy approximately 2,000 acres on private, USFS, and state school land. This forest may be outliers from pines in the Black Hills of South Dakota. In the summer of 2004, a fire swept through the region burning several hundred acres of pines.

Key Species of Conservation Priority

Mammals: possibly the bat species



Fire scorched Ponderosa Pines in Slope County.

5.8.c Conservation Problems and Actions for the Badlands

BADLANDS				
CONSERVATION PROBLEM	CONSERVATION ACTION	POTENTIAL PARTNERS		
Direct Loss of Habitat				
Loss due to development (e.g. ranchettes).	Work with county zoning planning officials to designate areas in need of protective covenants.	NDGFD USFWS USFS NRCS	NDNRT TNC	Private Landowners
	Work with partners to implement easements or land acquisition.			
Habitat Fragmentation				
Recreational trail development (i.e. hiking and biking).	Become directly involved with the USFS trail development planning process.	NDGFD USFS		
Becoming highly fragmented with roads, primarily because of oil access.	Communicate with the oil industry to minimize road impacts.	NDGF USFS BLM	NDIC	
Habitat Degradation				
Improper grazing practices (e.g. loss of green ash draws).	Implement grazing systems to benefit shortgrass prairie residual cover, forb species, and woody draws (i.e. participate in revision of USFS Allotment Management Plans or AMPs).	NDGFD NDSLD USFWS USFS BLM NRCS	DU TNC RMEF MDF	Private Landowners NDSUEXT
Loss of fire regime (i.e. juniper expansion).	Work cooperatively with state and federal agencies to develop BMPs that promote use of fire.	NDGFD NDSLD USFS USGS USNPS (TRNP) NRCS	RMEF MDF FNAWS	Private Landowners NDSUEXT
	Conduct research to document landscape scale changes in juniper cover.			
Conversion of ephemeral or temporary wetlands to a permanent wetland (i.e. tiger salamander depredation on other herp species, disease issues).	Continue to study the effects of altering ephemeral wetlands on fish and wildlife resources.	NDGFD NDSLD USFWS USFS USGS NGPJV	Universities	Private Landowners
Invasive and Noxious Species				
Noxious weeds (i.e. salt cedar, leafy spurge).	Control noxious weeds through biological and chemical methods.	NDGFD NDSLD USFWS USFS NRCS		Private Landowners NDSUEXT NDWCA
Pesticides				
Pesticide drift and application.	Work with state and federal agencies to enforce existing pesticide regulations.	NDGFD NDDAG USFWS USFS		Private Landowners

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CONSERVATION PROBLEM	CONSERVATION ACTION	POTENTIAL PARTNERS		
Industrial Development				
Wind energy potential is marginal to fair.	Coordinate with wind energy companies to minimize impacts.	NDGFD USFS USFWS		WIND NDSEED
Oil and gas expansion and development.	Look to exchange and consolidate mineral rights, particularly within focus areas.	NDGFD USFS BLM NGPJV	NDCTWS Sierra Club	Individual oil and gas lease holders
	Continue to provide public land management agencies with mitigation recommendations in respect to species of concern.			
Coalbed methane extraction has potential.	Coordinate with CBM companies to minimize effects.	NDGFD USFS BLM NGPJV	NDCTWS Sierra Club	CBM companies
Other Impacts				
Off-road vehicle or ATV use and creation of trails.	Work to minimize additional trail development on public lands.	NDGFD USFS		CVB/CC
Black-tailed prairie dog reduction due to poisoning or shooting.	Public education and periodic evaluation of shooting regulations.	NDGFD NDSLD USFS		
Data Gaps				
Lack of baseline information on SoCP.	Survey areas of data gaps. Conduct research/surveys to establish baseline information on SoCP.	NDGFD USFWS USFS NPWRC NDSLD	DU TNC	Volunteers Universities
Potential for reintroduction of SoCP.	Evaluate the possibility of reintroduction of select SoCP in national parks (e.g. swift fox).	NDGFD USFWS USNPS		
Conservation Awareness				
Continuing education.	Create informational brochures, use tools such as television, radio, newspapers, magazines, and public forums, to provide information to citizens on the need for conservation of fish and wildlife resources and habitat.	NDGFD USFWS USFS NRCS	DU TNC Audubon	NDSUEXT
	Education on the harmful effects of pesticides on non-target species (e.g. bats, herps, and songbirds).			
	Education on the positive aspects of perceived undesirable species (e.g. rattlesnakes).			
	Fire suppression and juniper expansion.			